

DATE: October 17, 2000

FROM: Bob Casper

RE: Matthiessen and Hegeler Zinc Co. - measurement of the area containing the waste pile.

Using the Planix 5 Planimeter, the area contained by the waste pile was calculated for the Matthiessen and Hegeler Zinc Co. On October 17, 2000, the border of the waste pile was traced with the planimeter. The area was taken from a 1988 aerial photograph showing the waste pile. The photo was taped down to prevent movement of the paper and four separate measurements were performed. The measurements resulted in one at 6.525513 sq. in., the second at 6.494512 sq. in., the third at 6.510013 sq. in. and the fourth at 6.510013 sq. in. The second measurement of 6.494512 sq. in. was used for further calculations because it was the lowest figure obtained.

A formula of $A = D \times N$ (squared) was supplied by the Planix 5 Planimeter owners manual. "A" is the area of the waste pile as illustrated by the boundary on the map. "D" is the displayed figure on the Planimeter (6.494512). "N" is the scale of the map (1 inch = 200 feet). One square inch on the map ("N" squared) equals 200 feet x 200 feet = 40,000 square feet.

When the values are inserted into the above formula ($A = 6.494512 \times 40,000$ sq. ft.) an answer of 259,780.48 square feet was obtained for the waste pile. This figure was divided by 43,560 feet to obtain the area in acres of 5.96.